E-II-YDHWC-0408

ENGLISH

INSTALLATION MANUAL

HIGH WALL TYPE INDOOR UNIT (EXV integrated)

Models:
YDHWC-022C15A
YDHWC-028C15A
YDHWC-036C15A
YDHWC-045C15A
YDHWC-056C15A

For correct installation, read this manual before starting installation.
Only trained and qualified service personnel should install, repair or service air conditioning equipment. Users should not install the air conditioner by themselves.
All pictures are only sketches. If there is any difference between pictures in this manual and the actual shape of the air conditioner you purchased, the actual shape shall prevail.

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1. PRECAUTIONS

- **Be sure to be in conformity with the local, national and international laws and regulations.**
- **Read "PRECAUTIONS" carefully before installation.**
- **The following precautions include important safty items. Observe them and never forget.**
- **Keep this manual with the owner's manual in a handy place for future reference.**

The safty precautions listed here are divided into two categories. In either case, important safty information is listed which must be read carefully.

WARNING

Failure to observe a warning may result in death.

CAUTION

Failure to observe a caution may result in injury or damage to the equipment.

After completing the installation, make sure that the unit operates properly during the start-up operation. Please instruct the customer on how to operate the unit and keep it maintained.Also, inform customers that they should store this installation manual along with the owner's manual for future reference.

WARNING

Be sure only trained and qualified service personnel to install, repair or service the equipment.
Improper installation, repair, and maintenance may result in electric shocks, short-circuit, leaks, fire or other damage to the equipment.

Install according to this installation instructions strictly.
If installation is defective, it will cause water leakage, electrical shock fire.

When installing the unit in a small room, take measures against to keep refrigerant concentration from exceeding allowable safety limits in the event of refrigerant leakage.
Contact the place of purchase for more information. Excessive refrigerant in a closed ambient can lead to oxygen deficiency.

Use the attached accessories parts and specified parts for installation.
otherwise, it will cause the set to fall, water leakage, electrical shock fire.

Install at a strong and firm location which is able to withstand the set' s weight.
If the strength is not enough or installation is not properly done, the set will drop to cause injury.

The appliance must be installed 2.5m above floor.

The appliance shall not be installed in the laundry.

Before obtaining access to terminals, all supply circuits must be disconnected.

The appliance must be positioned so that the plug is accessible.

The enclosure of the appliance shall be marked by word, or by symbols, with the direction of the fluid flow.

For electrical work, follow the local national wiring standard, regulation and this installation instructions. An independent circuit and single outlet must be used.
If electrical circuit capacity is not enough or defect in electrical work, it will cause electrical shock fire.

Use the specified cable and connect tightly and clamp the cable so that no external force will be acted on the terminal.
If connection or fixing is not perfect, it will cause heat-up or fire at the connection.

Wiring routing must be properly arranged so that control board cover is fixed properly.
If control board cover is not fixed perfectly, it will cause heat-up at connection point of terminal, fire or electrical shock.

If the supply cord is damaged, it must be replaced by the manufacture or its sevice agent or similarly qualifued person in order to avoid a hazard.

An all-pole disconnection switch having a cintract separation of at least 3mm in a poles should be connected in fixed wiring.

When carrying out piping connection, take care not to let air substances go into refrigeration cycle.
Otherwise, it will cause lower capacity, abnormal high pressure in the refrigeration cycle, explosion and injury.

Do not modify the length of the power supply cord or use of extension cord, and do not share the single outlet with other electrical appliances.
Otherwise, it will cause fire or electrical shock.

Carry out the specified installation work after taking into account strong winds, typhoons or earthquakes.
Improper installation work may result in the equipment falling and causing accidents.

If the refrigerant leaks during installation, ventilate the area immediately.
Toxic gas may be produced if the refrigerant comes into the place contacting with fire.

After completing the installation work, check that the refrigerant does not leak.
Toxic gas may be produced if the refrigerant leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker.

CAUTION

Ground the air conditioner.
Do not connect the ground wire to gas or water pipes, lightning rod or a telephone ground wire.Incomplete grounding may result in electric shocks.

Be sure to install an earth leakage breaker.
Failure to install an earth leakage breaker may result in electric shocks.

Connect the outdoor unit wires , then connect the indoor unit wires.
You are not allow to connect the air conditioner with the power source until w(including
iring and piping the air conditioner is done.

While following the instructions in this installation manual, install drain piping in order to ensure proper drainage and insulate piping in order to prevent condensation.
Improper drain piping may result in water leakage and property damage.

Install the indoor and outdoor units, power supply wiring and connecting wires at least 1 meter away from televisions or radios in order to prevent image interference or noise.
Depending on the radio waves, a distance of 1 meter may not be sufficient enough to eliminate the noise.

The appliance is not intended for use by young children or infirm persons without supervision.

Young children should be supervised to ensure that they do not play with the appliance.

Don't install the air conditioner in the following locations:

- There is petrolatum existing.
- There is salty air surrounding (near the coast).
- There is caustic gas (the sulfide, for example) existing in the air (near a hot spring).
- The Volt vibrates violently (in the factories).
- In buses or cabinets.
- In kitchen where it is full of oil gas.
- There is strong electromagnetic wave existing.
- There are inflammable materials or gas.
- There is acid or alkaline liquid evaporating.
- Other special conditions.

2. INSTALLATION INFORMATION

- **To install properly, please read this "installation manual" at first.**
- **The air conditioner must be installed by qualified persons.**
- **When installing the indoor unit or its tubing, please follow this manual as strictly as possible.**
- **If the air conditioner is installed on a metal part of the building, it must be electrically insulated according to the relevant standards to electrical appliances.**
- **When all the installation work is finished, please turn on the power only after a thorough check.**
- **Regret for no further announcement if there is any change of this manual caused by product improvement.**

INSTALLATION ORDER

- Select the location;
- Install the indoor unit;
- Install the outdoor unit;
- Install the connecting pipe ;
- Connect the drain pipe;
- Wiring;
- Test operation.

3. ATTACHED FITTINGS

Please check whether the following fittings are of full scope. If there are some spare fittings , please restore them carefully.

NAME	SHAPE	QUANTITY	FUNCTION
1. Installation board		2	——
2. Screw ST3.9x25 for installation board		3	Secure the installation board
3. Plastic expanded tube		3	——
4. Wrapping tape		1	——
5.Drain pipe		2	——
6. Sealing clay		2	——
7. Wall conduit cover		1	——
8. Remote controller (including operation manual)		1	——
9. Frame		1	Hold the remote controller
10. Mounting screw(ST2.9 × 10-C-H)		2	Insulation Holder for remote controller
11. Alkaline dry batteries (AM4)		2	——
12. Owner's manual	——	1	——
13. Installation manual	——	1	This manual

Cautions on remote controller installation:

- Never throw or beat the controller.
- Before installation, operate the remote controller to determine its location in a reception range.
- Keep the remote controller at least 1m apart from the nearest TV set or stereo equipment. (it is necessary to prevent image disturbances or noise interferences.)
- Do not install the remote controller in a place exposed to direct sunlight or close to a heating source, such as a stove.
- Note that the positive and negative poles are right positions when loading batteries.
- This manual is subject to changes due to technological improvement without further notices.

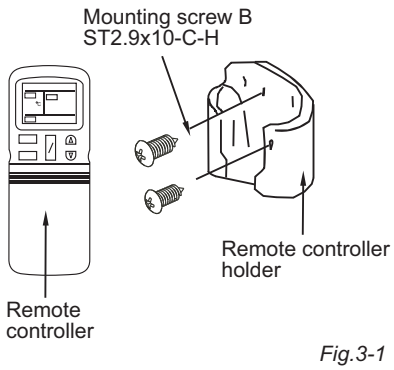


Fig.3-1

4. INSPECTING AND HANDLING THE UNIT

At delivery, the package should be checked and any damage should be reported immediately to the carrier claims agent.

When handling the unit, take into account the following:

1 Fragile, handle the unit with care.

Keep the unit upright in order to avoid compressor damage.

2 Choose on before hand the path along which the unit is to be brought in.

3 Move this unit as originally package as possible.

4 When lifting the unit , always use protectors to prevent belt damage and pay attention to the position of the unit's centre of gravity.

5. INDOOR UNIT INSTALLATION

5.1 Installation place

Installation in the following places may cause trouble.If it is unavoidable, please consult with the local dealer.

- A place full of machine oil.
- A saline place such as coast.
- A place full of sulfide gas such as hot-spring resort.
- Places where there are high frequency machines such as wireless equipment, welding
- Machine, and medical facility.
- A place there is no combustive gases and volatile matter.
- A place of special environmental conditions.

■ **Indoor Unit**

- A place where is no obstacle near the inlet and outlet area.
- A place which can bearf the indoor unit.
- A place which is convenient to maintenance.
- A place which provides the space around the indoor unit as required right in the diagram.
- There is strong electromagnetic wave exist-ing.
- A place which is far from heat, steam and inflammable gas.

5.2 Drilling A Hole and Mounting Installation Plate

Installation Plate and Its Direction (unit: mm)

22\28\36 type

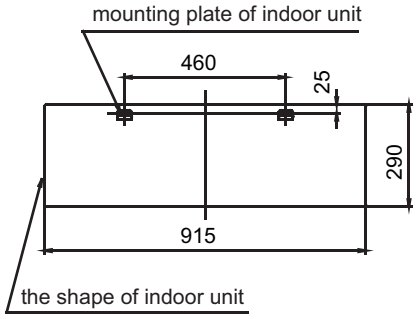


Fig.5-1

45\56 type

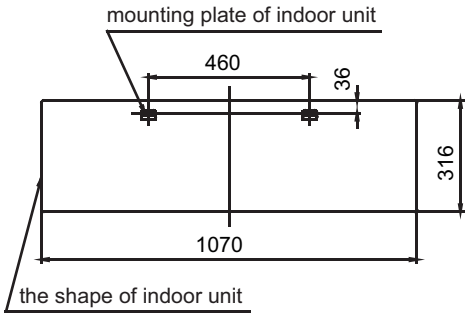


Fig.5-2

1 Fix the installation plate.

■ Install the installation plate horizontally on stru-ctural parts in the wall with the spaces provided around the plate.

■ In case of brick, concrete or similar type walls,make 5mmdia, holes in the wall. Insert clip anc-hors for appropriate mounting screws.

■ Fix the installation plate on the wall.

Right installation

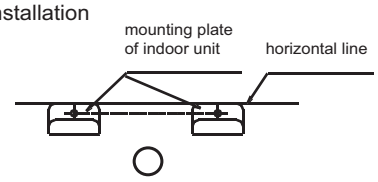


Fig.5-3

false installation

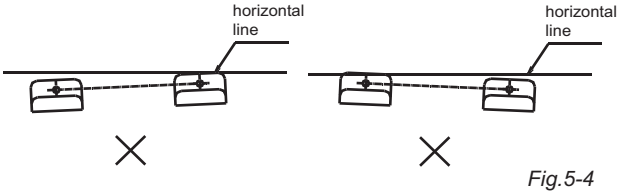


Fig.5-4

2 Drilling a hole.

■ Determine the pipe hole position using the installation plate, and drill the pipehole (N95mm) so it slants slightly downward.

■ Always use a wall hole conduit when piercing metal lath, ply wood or metal plate.

5.3 Connective Pipe and Drainage Installation

1 Drainage

- Run the drain hose sloping downward. Do not install the drain hose as illustrated below.

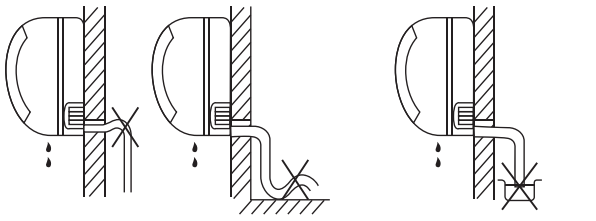


Fig.5-5

- When connection extension drain hose,insulate the connecting part of extension drain hose with a shield pipe

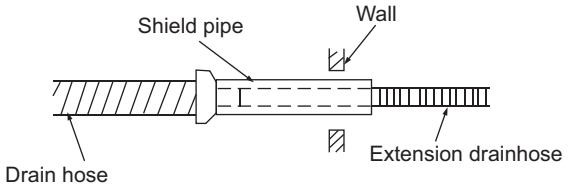


Fig.5-6

2 Connection pipe

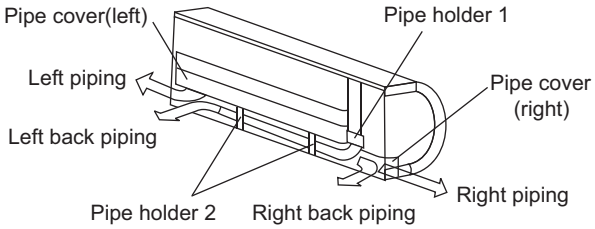


Fig.5-7

- For the left-hand and right-hand piping,remove the pipe cover from the panel side.
  - Explain to clients that the pipe cover must be kept as it may be used when relocate the air conditioner to any other place.
- For the left-hand and rear-left-hand piping,install the piping as shown. Bend the conn-ective pipe to be laid at 43mm height or less from the wall.

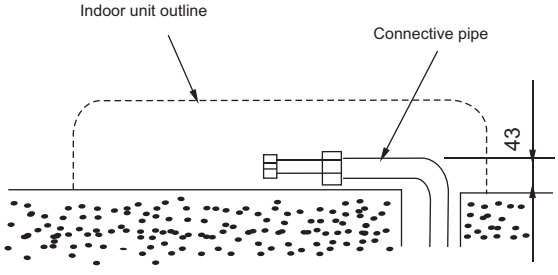


Fig.5-8

- Fix the end of the connective pipe.(Refer to Tightening Connection in REFRI-GERANT PIPING CONNECTION)

CAUTIONS

Connect the indoor unit first then the outdoor unit and bend and arrange the pipe carefully.

Do not allow the piping to let out from the back of the indoor unit.

Be careful not to let the drain hose slack.

Insulate both of the auxiliary piping.

Banding the drain hose under the auxiliary pipe.

Do not allow the piping to let out from the back of the indoor unit.

3 Piping and bandaging

Wind the connective cable, drain hose and wiring with tape securely, evenly as shown below.

- Because the condensed water from rear of the indoor unit is gathered in Pond Box and is piped out of room. Do not put anything else in the box.

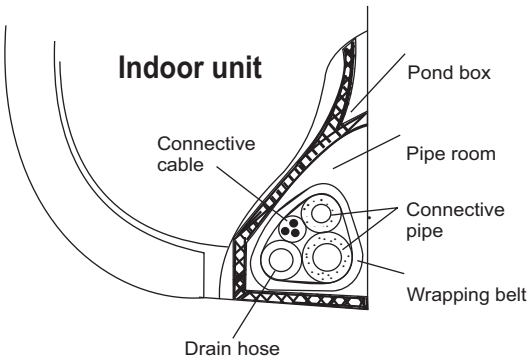


Fig.5-9

5.4 Indoor Unit Installation

- Pass the piping through the hole in the wall.
- Put the claw at the back of the indoor unit on the hook of the installation plate, move the Indoor Unit from side to side to see that it is securely hooked.
- Piping can easily be made by lifting the indoor unit with a cushioning material between the indoor unit and the wall. Get it out after finish piping.
- Push the lower part of the Indoor Unit up to the wall,Then move the Indoor Unit from side to side, up and down to check if it is hooked securely.

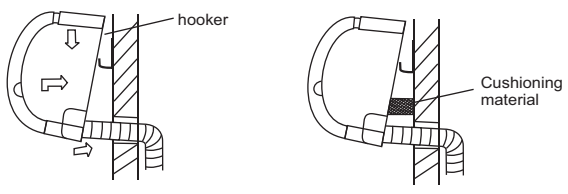


Fig.5-10

6. REFRIGERANT PIPE INSTALLATION

CAUTION

Ventilate the air if there was any refrigerant leakage during installation.Leaked refrigerant will generate poisonous gas if meeting fire.

Make sure there is no refrigerant leakage after installation .Leaked refrigerant will generate poisonous gas if meeting fire.

6.1 Allowed Length and Drop of Piping

Requirements are different when installing the Outdoor Unit,Please refer to Outdoor Unit Installation Manual for detailed information.

6.2 Material and Size of the Piping

Table 6-1

Pipe Material		Copper Pipe for Air Conditioner(410A)	
Model		22/28/36/45	56/71
Size(mm)	(Gas side)	Ø12.7	Ø16
	(Liquid side)	Ø6.35	Ø9.53

Table 6-2

Pipe Material		Copper Pipe for Air Conditioner(R22)
Model		22/28/36/45/56/71
Size(mm)	(Gas side)	Ø16
	(Liquid side)	Ø9.53

6.3 Refrigerant Volume to Be Added

- Refrigerant Volume to be added is calculated according to Outdoor Unit Installation Manual .
- Be save to add refrigerant measuring by a scale.

CAUTION

If refrigerant volume added is inadequate (too much or insufficient),the compressor malfunction will be caused.Be sure to calculate the refrigerant volume carefully.

The service man should note down the piping length and refrigerant volume added on the nameplate, which is on the Electric Control Box Cover of outdoor unit for to diagnose the compressor when compressor malfunction occurs.

6.4 Connection of the Refrigerant Pipe

Connection of the refrigerant pipe should be done by professionals.
Double-span should be used when connecting pipesof Indoor Unit.

- **Tightening Torque**

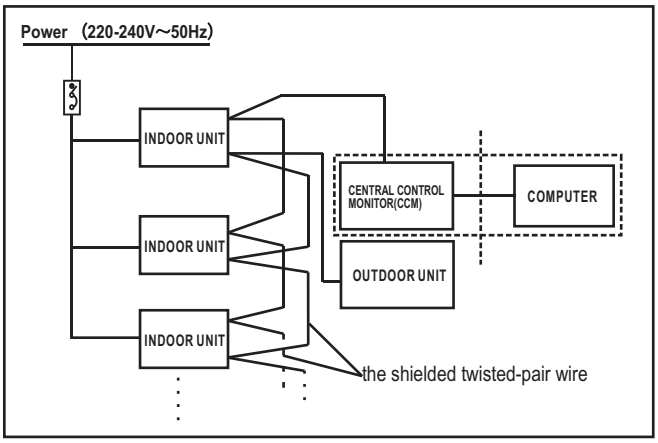
Table 6-3

Outer diameter(mm) of connection piping	Tightening Torque (N·m)
Ø6.35	10~12
Ø9.53	15~18
Ø12.7	20~23
Ø16	28~32

NOTE

Please refer to installation instructions for the refrigerant piping conection of the air conditioner that with throttle device inside.

7. WIRING CHART



CAUTION

The reserved function is indicated in broken line table,users can select it when necessary.

1 Take out the faceplate,then dismantle the display cover plate.(see *Fig.7-1)*

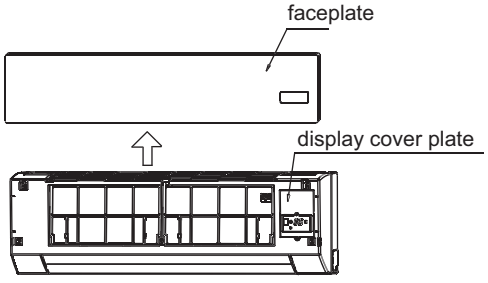


Fig.7-1

2 Individual connect the power cord and signal line,adjust the dial switch.(see *Fig.7-2)*

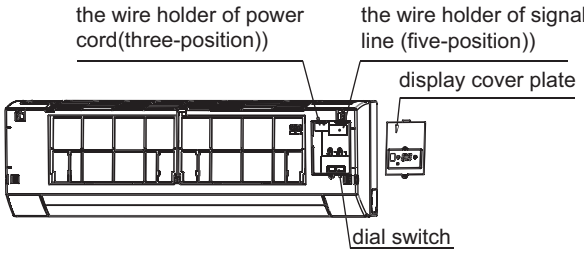
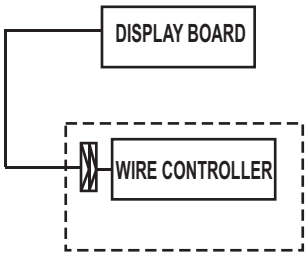


Fig.7-2



To wire controller

The reserved wire control function is indicated in broken line table,users can purchase the wire controller when necessary.

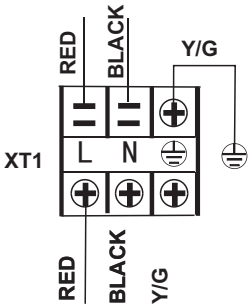
7.1 Terminal Board Diagram

Please refer to the indoor unit wiring diagram for the wiring.

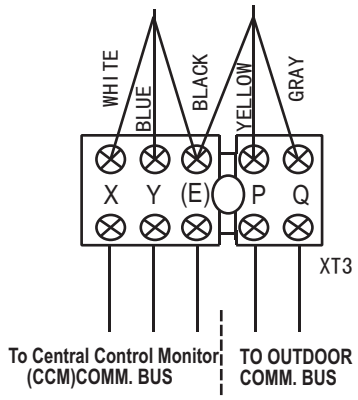
NOTE

The air-conditioners can connect with Central Control Monitor (CCM). Before operation, please wiring correctly and set system address and network address of indoor units.

■ **Single phase indoor unit**



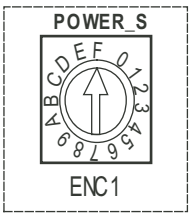
INDOOR UNIT POWER
220-240V～50/60Hz



Please adopt the shielded twisted-pair wire, and connect the shielded layer to (E)

7.2 Hoursepower set

Hoursepower code



ENC1	Toggle switch	For set horsepower
Note: The horsepower has been set before leaving the factory , anyone can't modify it except the maintenance person.	Code	Capacity(Horsepower)
	0	2200W(0.8HP)
	1	2800W(1.0HP)
	2	3600W(1.2HP)
	3	4500W(1.5HP)
	4	5600W(2.0HP)
	5	7100W(2.5HP)

7.3 System address set

Please number the indoor units according to below table during the installation . For example, for the first outdoor unit,the number of the first indoor unit is 1-1, the second indoor unit is 1-2, the others is analogical.

Toggle switch set		System address code
Sw1	ENC2	
		00~15
		16~31
		32~47
		48-63

CAUTION

The system together have 64units(0-63),everyone has only system addresscode,If two addresses are the same in one system , the abnormal operation will occur.

Please switch off the power before setting,otherwise the unexpected error will occur.

7.4 Network address set

Every air-conditioner in network has only one network address to distinguish each other. Address code of air-conditioner in LAN is set by code switch on Network Interface Module (NIM), and the set range is 0-63.

Toggle switch set		Network address code
S1	S2	
		00~15
		16~31
		32~47
		48-63

DE - COMMISSIONING DISMANTLING & DISPOSAL

This product contains refrigerant under pressure, rotating parts, and electrical connections which may be a danger and cause injury!

All work must only be carried out by competent persons using suitable protective clothing and safety precautions.

Read the Manual

Risk of electric shock

Unit is remotely controlled and may start without warning

1. Isolate all sources of electrical supply to the unit including any control system supplies switched by the unit. Ensure that all points of electrical and gas isolation are secured in the OFF position. The supply cables and gas pipework may then be disconnected and removed. For points of connection refer to unit installation instructions.
2. Remove all refrigerant from each system of the unit into a suitable container using a refrigerant reclaim or recovery unit. This refrigerant may then be re-used, if appropriate, or returned to the manufacturer for disposal **Under No circumstances should refrigerant be vented to atmosphere.** Where appropriate, drain the refrigerant oil from each system into a suitable container and dispose of according to local laws and regulations governing disposal of oily wastes.
3. Packaged unit can generally be removed in one piece after disconnection as above. Any fixing down bolts should be removed and then unit lifted from position using the points provided and equipment of adequate lifting capacity. Reference MUST be made to the unit installation instructions for unit weight and correct methods of lifting. Note that any residual or spilt refrigerant oil should be mopped up and disposed of as described above.
4. After removal from position the unit parts may be disposed of according to local laws and regulations.

Johnson Controls